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### Open Educational Resources: Initiatives in India

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# Open Educational Resources: Initiatives in India

## Introduction

A fisherman's child in the state of Andhra Pradesh solving a problem of Mathematics by viewing his mobile sitting near sea when his parents are busy in fishing, a farmer's child in Punjab listening to his lessons from the field; and a weaver's son in the remote village of West Bengal listening to the lecture of a renowned Professor of English sitting in Delhi; we can go on multiplying the examples, but what is important to remember that this is not a utopian thinking. This became possible due to the developments in the field of Open Educational Resources, which again has been made possible through the internet which is available almost to every Indian at a nominal cost these days, and the advent of concepts like the Creative Common Licenses which permits the reuse and redistribute the resources openly.

The OER(Open Educational Resources) supports the democratic version of knowledge sharing, means it does not discriminate on the basis of caste, creed, sex, age etc. So in the examples cited above the lectures are available not only to the fisherman's child, farmer's child or the weaver's child it is equally available to each and every person on the earth having access to the internet on his/her device. The beauty of OER is that anyone can have access to it provided he/she have the appropriate device to access it and of course, with the internet connectivity.

A country like India having a population of more than 1,373,366,371. (*India Population (2020)*—*Worldometers*, n.d.) is the country facing the scarcity of the resources due to its large population, but have the blessing of the internet on every nook of the country. Thus the government which is struggling to provide quality education to all can take the benefit of net-connectivity by providing quality open educational resources to all. When almost every Indian has a mobile device in his/her hand, the only thing the government needs to do is to mould the mobile using strategy towards the use of OER.

Open Educational Resources (OER) have received increased attention for their potential and promise to obviate demographic, economic, and geographic educational boundaries and to promote life-long learning and personalised learning. (Yuan, 2008)

## Open Educational Resources: Concept

United Nations Educational, Scientific and Cultural Organisation (UNESCO) website reveals that the Open Educational Resources (OER) are teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions. (*Open Educational Resources (OER)*, 2017). The website also reveals that the term OER first emerged in 2002.

In order for educational resources to be OER, they must have an open licence. The Creative Commons licence is the most widely used licensing framework internationally used for OER. (*Open educational resources: Policy, costs, transformation—UNESCO Digital Library*, n.d.).

OER are the practical realization of the idea of open education built on the belief that knowledge around the world is a public good, which is why everyone should have the freedom to use, customize, improve and redistribute educational resources without constraint to make education both more accessible and more effective. (Atroszko, 2015).

OER is not the substitute of the traditional institution-based education but it can be added advantages for the supplementing the institution based learning, to some extent it can benefit to them also who due to lack of time or money are not able to join the educational institutes on a regular basis.




The currently most used definition of OER is: “Open Educational Resources are digitised materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research.” To further clarify this, OER is said to include:




- Learning Content: Full courses, courseware, content modules, learning objects, collections and journals.
- Tools: Software to support the development, use, re-use and delivery of learning content including searching and organization of content, content and learning

management systems, content development tools, and on-line learning communities.

- Implementation Resources: Intellectual property licenses to promote open publishing of materials, design principles of best practice, and localization of content. (Hylén, n.d.).

So in simple words, we can conclude that Open Educational Resources are the resources which are meant for educational purpose and are available openly for use, though the limit of openness is well defined by the Creative Commons Licenses which are given in the table below (as taken from the website of Creative Commons <https://creativecommons.org/licenses/>)

Type	Attribution	Logo	Explanation
CC BY	Attribution		This license lets others distribute, remix, adapt, and build upon your work, even commercially, as long as they credit you for the original creation. This is the most accommodating of licenses offered. Recommended for maximum dissemination and use of licensed materials
CC BY-SA	Attribution-ShareAlike		This license lets others remix, adapt, and build upon your work even for commercial purposes, as long as they credit you and license their new creations under the identical terms. This license is often compared to “copyleft” free and open source software licenses. All new works based on yours will carry the same license, so any derivatives will also allow commercial use. This is the license used by Wikipedia, and is recommended for materials that would benefit from incorporating content from Wikipedia and similarly licensed projects.
CC BY-ND	Attribution-NoDerivs		This license lets others reuse the work for any purpose, including

			commercially; however, it cannot be shared with others in adapted form, and credit must be provided to you.
CC BY-NC	Attribution-NonCommercial		This license lets others remix, adapt, and build upon your work non-commercially, and although their new works must also acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms.
CC BY-NC-SA	Attribution-NonCommercial-ShareAlike		This license lets others remix, adapt, and build upon your work non-commercially, as long as they credit you and license their new creations under the identical terms.
CC BY-NC-ND	Attribution-NonCommercial-NoDerivs		This license is the most restrictive of our six main licenses, only allowing others to download your works and share them with others as long as they credit you, but they can't change them in any way or use them commercially.

## Open Educational Resources Pros

There are several statements in favour of Open Educational Resources as

OER is an innovative tool for meeting the challenges of providing lifelong learning opportunities for learners from diverse levels and modes of education worldwide. (*Open Educational Resources (OER)*, 2017).

OER provides educators and students with the possibility to both download the content to their devices and reuses and adapt it to suit their needs. (*Open educational resources: Policy, costs, transformation—UNESCO Digital Library*, n.d.)

OER is to enhance access to educational opportunities, informal and formal. (*Open educational resources: Policy, costs, transformation—UNESCO Digital Library*, n.d.).

As the resources are available open, if permitted, anyone can review it and rate the item for public use, which can more or less give the authentication regarding the quality of the content of the resources, as we often do at Amazon and other similar electronic market space.

Anyone can learn from it either because of his/her interest in the field or supplementing his/her regular course.

Incentives for faculty members, as the Indian university and college teachers, are getting the benefit of making online course wares as an added advantage for their promotion.

Can be used as supplementary to the main classroom learning, for the in-depth understanding of the concept.

### Open Educational Resources Challenges

The main challenges to implement the OER are the question of intellectual property, the digital divide, and sustainability. (Smith & Casserly, 2006)

Where intellectual property, is the property made after applying one's intellect as writings, art and music often come under copyright mean to control the right to copy.

Digital Divide many of the countries in the world still have the problem of low connectivity to the internet, but India is not facing this, but many time Indian faces the low bandwidth of the internet due to which the OER often get slowly downloaded and may cause irritation to the leaners.

Lack of reward for the person preparing the OER; very often it is seen that the person making the OER are demotivated because they know that they are not getting any reward of making the OER. Very often this may not be true as the person making the quality OER will attract the more numbers of learners and that will make him popular, which I think any of the academicians's first choice to have wider fame in respect of his educational qualities. And as discussed in the earlier section that the Indian educational system is rewarding the Professors engaged in making online educational content in respect of their Career Advancement Scheme which relates to their promotion to the higher grade in their carrier.

## Open Educational Resources Initiative in India

There are several initiatives, both governmental and nongovernmental open educational resources in India. Several YouTube videos, blogs, etc. can be seen prepared by individuals and organisations which seem to have useful educational resources. Here I will try to limit myself to some of the standard OER initiatives in India.

### NPTEL :

When talking about the OER initiatives in India, the name of NPTEL comes first. The National Programme on Technology Enhanced Learning (NPTEL) was initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along with the Indian Institute of Science, Bangalore in 2003. (*Nptel, online courses and certification, Learn for free*, n.d.)

The project has been funded by the Ministry of Human Resource Development, Government of India. It is the largest online repository in the world of courses in engineering, basic sciences and selected humanities and social sciences subjects.

IITs (Indian Institute of Technology) are the premier institutes in India offering mainly the Technical degrees to the enrolled students, as the seats are limited and many are not able to get enrolled in the IIT hence the NPTEL provides a platform to the learners who are interested to learn the art of technology by the expert of IIT, i.e. the professors of IIT.

It is now possible for anyone outside the IIT System to be able to do an online certification course from NPTEL and get a certificate from the IITs. IITs are reaching out and taking education to the homes of people through this initiative. (*Nptel, online courses and certification, Learn for free*, n.d.)

These courses are open for anyone to access – at no cost. So anyone interested in learning gets access to quality content, which also includes a discussion with the content creator and access to assignments for self-testing.

## SWAYAM:

SWAYAM is a programme initiated by the Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The objective of this effort is to take the best teaching-learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy. This is done through a platform that facilitates hosting of all the courses, taught in classrooms from Class nine till post-graduation to be accessed by anyone, anywhere at any time. (*Swayam Central*, n.d.)

## IGNOU'S E-GYANKOSH:

Indira Gandhi National Open University is the largest open university in India, providing education to its learners through the open mode of learning. E-GYANKOSH is an archive of various text study material of all the courses run by it, which are freely available to all. And it's YouTube video also provides a range of Open Educational Videos recorded at the IGNOU studio for Gyan Darshan educational channels.

## SAKSHAT:

Is envisaged as one-stop education portal to facilitate lifelong learning of the students, teachers and those in employment or in pursuit of knowledge free of cost to them. The portal is expected to be the main delivery platform for the contents developed under the National Mission on Education through ICT (NMEICT). Sakshat integrates all the contents developed under the Mission and also provides Mission related information and to facilitate public scrutiny, feedback and transparency for the projects undertaken by the Mission. (*Sakshat*, n.d.)

## SWAYAM PRABHA:

The SWAYAM PRABHA is a group of 32 DTH channels devoted to telecasting of high-quality educational programmes on 24X7 basis using the GSAT-15 satellite. Every day, there will be new content for at least (4) hours which would be repeated five more times in a day, allowing the students to choose the time of their convenience. The contents are provided by NPTEL, IITs, UGC, CEC, IGNOU,



NCERT and NIOS. The INFLIBNET Centre maintains the web portal. (*Swayam Prabha / Free 32 DTH channels*, n.d.)

#### CONSORTIUM FOR EDUCATIONAL COMMUNICATION:

The Consortium for Educational Communication popularly known as CEC is one of the Inter University Centres set up by the University Grants Commission of India. It has been established with the goal of addressing the needs of Higher Education through the use of powerful medium of Television alongwith the appropriate use of emerging Information Communication Technology (ICT).

CEC Gurukul live lectures are delivered by eminent educationists, the learners are provided with the toll free numbers where the viewer can put the questions during live lectures, the lectures are live on SWAYAM prabha educational channel the recorded videos are also put on you tube and face book for wider reach and popularity.

The National Mission on Education through ICT is a project of MHRD which provides a momentous opportunity for all the teachers and experts in the country to pool their collective wisdom for the benefit of every Indian learner and, thereby, reducing the digital divide. Under this Mission, a proper balance between content generation, research in critical areas relating to imparting of education and connectivity for integrating our knowledge with the advancements in other countries is to be attempted. CEC, as an active partner, is engaged in generation of e-content courseware for undergraduate subjects under the plan project of NME-ICT of MHRD. (*Pages—NME-ICT Project*, n.d.)

#### E PG PATHSALA :

Is the gateway to all the postgraduate courses, it is an initiative of the MHRD under its National Mission on Education through ICT (NME-ICT) being executed by the UGC. The content and its quality being the key component of education system, high quality, curriculum-based, interactive e-content in 70 subjects across all disciplines of social sciences, arts, fine arts and humanities, natural & mathematical sciences. (*E-PGPathshala*, n.d.)

## NATIONAL DIGITAL LIBRARY OF INDIA:

Ministry of Human Resource Development (MHRD) under its National Mission on Education through Information and Communication Technology (NMEICT) has initiated the National Digital Library of India (NDL India) pilot project to develop a framework of virtual repository of learning resources with a single-window search facility. Filtered and federated searching is employed to facilitate focused searching so that learners can find out the right resource with least effort and in minimum time. NDL India is designed to hold content of any language and provides interface support for leading Indian languages. It is being arranged to provide support for all academic levels including researchers and life-long learners, all disciplines, all popular form of access devices and differently-abled learners. It is being developed to help students to prepare for entrance and competitive examination, to enable people to learn and prepare from best practices from all over the world and to facilitate researchers to perform inter-linked exploration from multiple sources. The pilot project is devising a framework that is being scaled up with respect to content volume and diversity to serve all levels and disciplines of learners. It is being developed at Indian Institute of Technology Kharagpur. (*National Digital Library of India*, n.d.)

## National Repository of Open Educational Resources (NROER):

Initiated by the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India and managed by the Central Institute of Educational Technology, National Council of Educational Research and Training, the Repository runs on the MetaStudio platform, an initiative of the Gnowledge Labs, Homi Bhabha Centre for Science Education. (*NROER - Page—About*, n.d.)

NROER is working on initiatives to bring together all digital resources across all stages of school education and teacher education. It hosts several educational contents, audio, video, text, animations of each level of school education primary, secondary and senior secondary in several Indian languages.

All the content available on NROER is under Creative Commons CC BY-SA 3.0 License; however, the NCERT textbooks are licensed to download permitted to share as it is non commercially.

NCERT :

National Council of Educational Research and Training (NCERT) is the autonomous organization set by Government of India to assist and advise the central as well as state governments regarding the school education, it also publishes the model school textbooks and is playing other related roles to make the quality school education possible in India.

The online service of NCERT offers easy access to the NCERT textbooks. The service covers textbooks of all subjects published by NCERT for classes I to XII in Hindi, English and Urdu. The Entire book or individual chapters can be downloaded provided the terms of use as mentioned in the Copyright Notice is adhered to. (*National Council Of Educational Research And Training: Home*, n.d.)

As mentioned earlier, NCERT books are a model school textbook, and the best-realted experts in the country are preparing them. Hence their availability on the internet had sorted out the problem of unreachability of the school textbook to the people at remote places of the country. Now every Indian can dream of having the reach to quality school textbooks on his/her fingertip due to the initiative of the online availability of the NCERT textbooks.

**Role of Library and Information Professional:**

The library and information professionals can take the lead to arrange the created open educational resources for providing the right resource to the right user at the right time. Now they have to realize that they are no more the curator of the physical documents they may come in the leading role to provide access to the online open resources too.

**Recommendations:**

The government should try to build a common platform (portal) to access all the OER available in India so that users don't have to roam from one content to others, as seen in the previous pages there are number of portals for the educational

resources, many of them have a common aim but none of them is sufficient enough to claim that they are the best.

The resources should be well classified, catalogued and indexed so that the learners should have quick access to the material they are searching.

And most importantly, the Open Education Resources must follow the extensive review approach which may assist the users in checking the usefulness of the content to them.

### Conclusion and Open Educational Resources relevance to India:

The NMEICT mission of Government of India, the Internet connectivity to the every Indian and the Creative Common Licensing had created a ray of hope to every Indian to be well educated, on the one hand, Indians are struggling due to high population and on the other hand, these three blessings the NMEICT, Internet and CCL which will definitely bring a change in respect of quality educational resources accessibility to the Indians.

The Government of India had realized the potential of OER and hence had developed several massive projects, though the projects are at the nascent stage, the time will come when it brings the change and the whole population will be educated and get benefited by it.

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